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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,315	09/15/2000	Christoph Hermann	PHD 99-175	2350

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EXAMINER

NG, CHRISTINE Y

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,315

Applicant(s)

HERMANN, CHRISTOPH

Examiner

Christine Ng

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21, 27, 28 and 30 is/are rejected.
- 7) ☒ Claim(s) 22-26, 29 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 12 and 15-21 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,374,099 to Bi et al.

Referring to claim 12, Bi et al disclose in Figure 1 a wireless network comprising:

A base station (BS 14a-e).

A terminal (MS 12a-c) for exchanging user data and control data with the base station in dependence upon a plurality of persistency probabilities for assigning various transmissions capacities for at least one data packet. Refer to Column 1, lines 11-23 and Column 2, lines 42-48 and lines 54-64.

Wherein the terminal is operable to transmit a first reservation request (access probe sequence) for a first time (first time slot) to the base station in dependence on a first persistency probability (predetermined threshold P), the first reservation request being associated with a first data packet. In Figure 4, "before transmitting an access probe in each access probe sequence, the wireless station performs a persistence test 68 for every Access Channel slot". The terminal transmits the access probe "only if the

wireless unit passes the persistence test for that slot", in which a generated random number is compared with a predetermined threshold P. Refer to Column 4, lines 8-19.

Wherein, subsequent to a transmission of the first reservation request (access probe sequence) for the first time (first time slot) by the terminal to the base station, the terminal is further operable to transmit the first reservation request (access probe sequence) for at least one additional time (next time slot) to the base station in dependence on at least one further persistency probability (another predetermined threshold P). "If the persistence test fails, the access probe sequence is deferred until at least the next slot" (Column 4, lines 19-21), during which persistence test 68 is performed again. Also, the P values can be "re-calculated at each pass through the persistent test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 8-10).

Referring to claim 15, refer to the rejection of claim 12. In Figure 4, the terminal generates a new random number RP to be compared with a different predetermined threshold during each pass of the persistence test 68. Refer also to Column 7, lines 40-44.

Referring to claim 16, Bi et al disclose that the first persistency probability (predetermined threshold P) and the further persistency probability (another predetermined threshold P) are a function of a traffic load of the wireless network. "In overload situations, P will decrease because the base station will include the persistency values $p_{\text{persist}}(n)$ for the ordinary overload classes, thereby making the persistence test even more difficult to pass" (Column 4, lines 46-57).

Referring to claim 17, refer to the rejection of claim 12. The second persistency probability is the same as the "further persistency probability" (another predetermined threshold P) of claim 12.

Referring to claim 18, refer to the rejection of claim 15.

Referring to claim 19, Bi et al disclose in Figure 4:

Wherein the base station is operable to transmit a rejection message (failure to receive an acknowledgement) to the terminal that corresponds to a transmission of the first reservation request (access probe sequence) for the first time (first time slot) by the terminal to the base station.

Wherein, only after transmission of the rejection message (failure to receive an acknowledgement) by the base station, the base station is further operable to transmit a second persistency probability (another predetermined threshold P) to the terminal.

When a terminal attempts to send an access probe and does not receive an acknowledgement from the base station for the request, the terminal performs another persistence test (Block 68). Refer to Column 2, lines 54-64 and Column 4, lines 14-21. During the persistency test 68, if the generated random number RP is greater than P, the data packet is rejected and the access probe waits until at least the next time slot to perform the persistence test again. Refer to Column 4, lines 17-21. Furthermore, P values are "re-calculated at each pass through the persistence test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 7-9).

Referring to claim 20, refer to the rejection of claim 17.

Referring to claim 21, refer to the rejection of claim 18.

3. The indicated allowability of claims 28 and 30 is withdrawn in view of the newly discovered reference(s) to U.S. Patent No. 6,374,099 to Bi et al. Rejections based on the newly cited reference(s) follow.

4. Claims 28 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,374,099 to Bi et al.

Referring to claims 28 and 30, Bi et al disclose in Figure 1 a base station (BS 14a-e) or terminal (MS 12a-c) in a wireless network for exchanging user data and control data with each other in dependence upon a plurality of persistency probabilities for assigning various transmissions capacities for at least one data packet. Refer to Column 1, lines 11-23 and Column 2, lines 42-48 and lines 54-64. The base station or terminal comprises:

Means (Figure 4, Step 68) for transmitting a first persistency probability (predetermined threshold P) to the terminal whereby the terminal has means (Figure 1, antenna on MS 12a-c) operable to transmit a first reservation request (access probe sequence) for a first time (first time slot) to the base station in dependence on the first persistency probability (predetermined threshold P), the first reservation request (access probe) being associated with a first data packet. In Figure 4, "before transmitting an access probe in each access probe sequence, the wireless station performs a persistence test 68 for every Access Channel slot". The terminal transmits the access probe "only if the wireless unit passes the persistence test for that slot", in

which a generated random number is compared with a predetermined threshold P.

Refer to Column 4, lines 8-19.

Means (Figure 4, Step 68), subsequent to a transmission of the first reservation request (access probe sequence) for the first time (first time slot) by the terminal to the base station, for transmitting at least one of a second persistency probability (another predetermined threshold P) and a fourth persistency probability (none) to the terminal whereby the terminal is further operable to transmit the first reservation request (access probe sequence) for a second time (next time slot) in dependence the second persistency probability (another predetermined threshold P). "If the persistence test fails, the access probe sequence is deferred until at least the next slot" (Column 4, lines 19-21), during which persistence test 68 is performed again. Also, the P values can be "re-calculated at each pass through the persistent test to ensure that updated persistence parameters are used to calculate the P values" (Column 8, lines 8-10).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,374,099 to Bi et al in view of U.S. Patent No. 6,621,807 to Jung et al.

Referring to claim 13, Bi et al discloses that the data packet comprises a

preamble and a data part. Refer to Column 3, lines 9-11.

Bi et al does not disclose that the terminal is operable to transmit the preamble part as the first reservation request.

Jung et al discloses in Figure 3A that a data packet consists of a preamble (Element 36) and a data part (Element 38). The preamble is a channel designation request flag for the terminal to request designation of a channel on which a message will be sent. Refer to Column 4, lines 1-9. If a message is too long, it is separated into segments. The first segment is transmitted on the common access channel and the rest of the segments are transmitted on an available channel designated by the base station. Refer to Column 3, lines 52-59. This prevents "collisions with other MSs which are simultaneously attempting to transmit on the access channel," (Column 3, lines 58-59). "In response to the channel designation request, the channel used for channel designation may be selected by the BS" (Column 4, lines 18-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the preamble is the first reservation request; the motivation being that if a message is too long and is separated into segments, the terminal can request another channel besides the common access channel to transmit additional segments of the message in order to avoid collision with other terminals using the common access channel.

Referring to claim 14, Bi et al discloses that the data packet comprises a preamble and a data part. Refer to Column 3, lines 9-11.

Bi et al does not disclose that after receiving an assignment message corresponding to the first reservation request from the base station, the terminal is further operable to transmit the data part to the base station.

Jung et al discloses in Figure 3A that a data packet consists of a preamble (Element 36) and a data part (Element 38). The preamble is a channel designation request flag for the terminal to request designation of a channel on which a message will be sent. Refer to Column 4, lines 1-9. If a message is too long, it is separated into segments. The first segment is transmitted on the common access channel and the rest of the segments are transmitted on an available channel designated by the base station. Refer to Column 3, lines 52-59. This prevents "collisions with other MSs which are simultaneously attempting to transmit on the access channel," (Column 3, lines 58-59). Once the BS designates a channel, "the transmission of all subsequent message segments will occur on the designated channel" (Column 9, lines 7-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that after receiving an assignment message corresponding to the first reservation request, the terminal is further operable to transmit the data part of the packet; the motivation being that if a message is too long and is separated into segments, the terminal can request another channel besides the common access channel to transmit additional segments of the message in order to avoid collision with other terminals using the common access channel.

7. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,374,099 to Bi et al in view of U.S. Patent No. 6,078,572 to Tanno et al.

Bi et al does not disclose that the base station is operable to transmit a factor only after the transmission of the first data packet has been rejected and that the terminal is further operable to form the further persistency probability from the received factor and the first persistency probability.

Tanno et al disclose in Figure 12 that when a packet of information is to be transmitted, mobile stations generate a random number RND and compare it with transmission probability P (Step S40). If $RND \geq P$, the mobile station does not transmit the data packet (Step S60) and repeats the process (Step S40) until $RND < P$. In order to calculate P, the base station transmits a factor (traffic information R) to the mobile stations, and the mobile stations "obtains transmission probability P from the traffic information R by using the table (Figure 11)" (Column 18, lines 54-56). Refer to Column 17, lines 15-38 and Column 18, lines 50-64. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that base station is operable to transmit a factor only after the transmission of the first data packet has been rejected and that the terminal is further operable to form the further persistency probability from the received factor and the first persistency probability. Since the mobile station calculates the persistency probability, it is possible to change the transmission probability of each mobile station, to add priority for accessing each mobile station, and in the event that a new algorithm for deciding a transmission probability were developed, to apply the new algorithm to the mobile station only without changing the structure of the base station. Refer to Column 18, line 65 to Column 19, line 8.

Allowable Subject Matter

8. Claims 22-26, 29 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng ^{CV}
February 23, 2005


RICKY NGO
PRIMARY EXAMINER

3/3/05